

Remarks/Arguments:

This is a reply to the office action of September 21, 2004, in which the claims of this application were rejected over a prior patents to Frolov (U.S. Patent No. 5,988,708) and Surko (US Patent No. 5,490,697).

The claims have been amended to better distinguish the invention from the prior art. We believe the claims now presented are allowable, for reasons set out below.

Frolov discloses a door lock mechanism 10, comprising: a “first opening unit located inside a fire door” – as shown on lower surface of the door and including 94, an “opening member” – any of the structures 34, 36, 38, 40, 44, 48, 52, 42, 46, 50, 54, 56, a “lock bolt” - 20, a “lock bolt mount” – part 20’s mounting structure, a “second opening unit mounted on an opposite side of the fire door” – as shown, on upper surface of the door and including 30, having a “handlebar” – 30, and “actuator rotatably disposed in the handlebar” – 58, a “push rod” – 62, a “swing arm” including 96, 98.

However, Frolov fails to disclose the “lock bolt mount” being disposed within the “first opening unit” or within the fire door, but merely discloses the “lock bolt mount” being disposed on a surface of the fire door. Moreover, the “opening member” of Frolov (any of the structures 34, 36, 38 and etc.) is disposed on the same side of the fire door with the “second opening unit”. Furthermore, the “swing arm” (including 96, 98) is actuated by the part 94 which is included in the “first opening unit”, according to the disclosure of Frolov.

Surko discloses a door lock mechanism comprising: a first opening unit, an opening member located inside a fire door, a lock bolt, a lock bolt mount, a second opening unit mounted on an opposite side of the fire door, having a handlebar, an actuator rotatably disposed in the handlebar, a push rod, and a swing arm.

Surko does not disclose the feature of the present invention that the “lock bolt mount” is disposed within the “first opening unit” or within the door, but merely discloses the lock bolt

mount is to be disposed on a surface of the door. The “opening member” of Surko (portion including 60) is disposed on the same side of the fire door with the “second opening unit” (portion including 32). Furthermore, the swing arm 96 is actuated by the first opening unit, according to the disclosure of Surko.

Claim 1 distinguishes the present invention from the prior art, by reciting a first opening unit located within a fire door, and a lock bolt mount disposed within the first opening unit. In other words, the lock bolt mount according to the claimed invention must be disposed within the fire door. Moreover, claim 1 requires a second opening unit mounted on an opposite surface of the fire door corresponding in position to the opening member. The claim also requires a swing arm being driven by a motion of the push rod coupled to the handlebar (contained in the second opening unit).

The door lock mechanism according to claim 1 comprises a first opening unit located within a fire door and a second opening unit mounted on a surface of the fire door, wherein a lock bolt within the first opening unit (within the fire door accordingly) is operated by a swing arm of the second opening unit extending to the inside of the fire door. Since the first opening unit containing the lock bolt is provided within the fire door, the lock bolt can be prevented from being damaged. Therefore, the structure of the door lock mechanism now claimed is markedly different from those disclosed by Frolov and Surko.

Claim 1 as amended also requires that the second opening unit comprise two actuators, two first horseshoes, two second horseshoes, and a push rod, wherein the actuators, the first horseshoes, the second horseshoes, and the push rod are so configured that when the second horseshoes receive a force from the handlebar and move downwardly accordingly, the actuators swing about the first horseshoes as pivots, to thereby induce a horizontal movement of the push rod. Thereby, the lock bolt can be easily operated to enter a released or engaged state by pushing the handlebar.

Since the cited prior art fails to teach or suggest Applicant’s inventive features as discussed above, it is respectfully submitted that amended claims are patentable over Frolov and Surko.

We believe that the grounds of rejection have been overcome by this amendment, and that the application is now in condition for allowance.

Respectfully submitted,

A handwritten signature in cursive script, reading "Charles W. Fallow".

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